

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT W. TORRES and PHIL M. OSHITA

Appeal 2006-1326
Application 09/919,326
Technology Center 3600

Decided: February 12, 2007

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and
CHUNG K. PAK, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 5, 7-11, and 13-16, the only claims pending in this application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

We AFFIRM.

INTRODUCTION

The claims are directed to a device for sealing a cavity and a method of using the device. The device is disclosed as a high pressure sealing assembly used in electrical connectors (Specification 1, ll. 6-9; Figure 2). The high pressure sealing assembly prevents electrical wiring from short circuiting due to exposure to conductive fluids, such as salt laden air (Specification 1, ll. 13-16). The method includes inserting the high pressure sealing assembly, with the electrical wiring coaxially extending through the sealing assembly, into a cavity of an electrical connector such that the sealing surface (50) contacts the cavity's interior surface to provide a liquid and gas tight seal (Specification 7, ll. 11-22; Figure 3A and 3B). Claims 5 and 9 are illustrative:

5. A device for sealing a cavity comprising an interior surface, the device comprising:

a sleeve comprising a longitudinal axis and an insertion end;

a molded skirt integrally formed on the sleeve;

wherein the skirt comprises a first integral section extending in a plane which is substantially perpendicular to the longitudinal axis;
and

wherein the skirt comprises a second integral section comprising an interior surface and a sealing surface that extends along the length of the sleeve in a direction opposite to the insertion end such that there is a gap between the interior surface and the sleeve;

wherein the sealing surface has substantially the same shape as the interior surface of the cavity prior to the insertion into the cavity so that the skirt deforms only a small amount to form a seal between

the sealing surface and the interior surface of the cavity when the sleeve is subsequently inserted into the cavity; and

wherein the molded skirt is constructed from an electrically insulating material.

9. A method of sealing an opening of a cavity comprising the steps of:

inserting a portion of a structure through a sleeve of a sealing assembly, the sealing assembly having a molded skirt constructed from an electrically insulating, elastomeric material;

inserting a section of the structure including portion of the structure inserted through the sealing assembly into the cavity through the cavity opening so that the molded skirt is in sealing contact with the inside surface of the cavity wherein the molded skirt comprises a sealing surface that has substantially the same shape as the interior surface of the cavity prior to insertion into the cavity so that the skirt deforms only a small amount to form a seal between the sealing surface and the interior surface of the cavity.

The Examiner relies on the following prior art reference as evidence of unpatentability:

Hayashi

US 5,540,450

Jul. 30, 1996

The rejection as presented by the Examiner is as follows:

1. Claims 5, 7-11, and 13-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hayashi.

Rather than reiterate the respective positions advocated by the Appellants and by the Examiner concerning this rejection, we refer to the Brief and Reply Brief and to the Answer, respectively, for a complete exposition thereof.

OPINION

Appellants separately argue the claimed device and method of using the device. However, Appellants do not separately argue each claim of the device or the method of use. Rather, Appellants arguments are generic to all the independent claims of the device or method of use. Accordingly, we choose independent claims 5 and 9 as representative claims for the device and method of using the device, respectively.

The feature of claims 5 and 9 that is the point of contention between the Examiner and Appellants is as follows:

. . . the sealing surface has substantially the same shape as the interior surface of the cavity prior to insertion into the cavity so that the skirt deforms only a small amount to form a seal between the sealing surface and the interior of the surface of the cavity . . .

The Examiner rejected claims 5, 7-11, and 13-16 under § 102(b) over Hayashi. The Examiner found that Hayashi disclosed all the features of the claims (Answer 3-4). Specifically, the Examiner took the position that Hayashi “illustrates that the sealing surface has substantially the same shape as the interior surface of the cavity” (Final Office Action 6, mailed December 27, 2004). Moreover, the Examiner stated that “‘substantially’ is a broad term that does not clearly define the invention” (Final Office Action 6, mailed December 27, 2004) presumably to indicate that Hayashi’s sealing surface may be determined to be “substantially the same shape as the interior surface of the cavity prior to insertion into the cavity.”

With regard to the device and method claims, Appellants argue Hayashi does not disclose an arrangement where the “sealing surface has

substantially the same shape as the interior surface of the cavity prior to insertion into the cavity” (Br. 8). Appellants further argue, with regard to the method claims, that since Hayashi discloses that R2 (i.e., the outside diameter of the rear end of outer cylinder 16) is “much larger” than R1 (i.e., the inside diameter of seal cylinder 1) in the Figure 1 embodiment, Hayashi’s sealing surface (i.e., the outer surface of outer cylinder 16) cannot be “substantially the same shape as the interior surface of the cavity” (Br. 9).

The Examiner responds that the recitation of “for sealing a cavity” in the device claims is “considered as the intended use of the device” (Answer 5). The Examiner indicates that Appellants do not “positively claim the internal cavity” such that the “manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus, which differentiates it from a prior art reference disclosing the structural limitations of the claim” (Answer 5). The Examiner also states that Hayashi’s rubber plug 3 is used to seal a cavity of a seal cylinder (1) such that the sealing surface of Hayashi’s rubber plug 3 has “. . . substantially the same shape as the interior surface of the cavity . . .” (Answer 5-6).

Regarding the method claims, the Examiner contends that when the claimed method is practiced, Hayashi’s device functions in the same manner as Appellants’ device (Answer 6-8). Namely, both Hayashi’s rubber plug 3 and Appellants’ high pressure sealing assembly 40 function by having their respective sealing surface deform slightly to provide a seal (Answer 6-8). The Examiner further notes that Appellants failed to define in their Specification what amount of deformation constitutes a “small amount” (Answer 8). Based on Appellants’ failure to define the term “small” the

Examiner determines that “one of ordinary skill in the art would consider the amount of Hayashi’s deformation as a ‘small’ amount” (Answer 8).

Appellants respond that Hayashi does not disclose deforming the sealing surface of the rubber plug 3 a “small amount” (Reply Br. 2). Rather, Appellants contend that Hayashi demonstrates in Figure 1 that the rubber plug 3 needs to deform “about .250 inches or about 18%,” which Appellants determine is not a “small amount” (Reply Br. 2). Moreover, Appellants reiterate their previous argument that Hayashi’s disclosure that R2 is “much larger” than R1 in Figure 1 indicates that the deformation required to insert Hayashi’s rubber plug 3 into seal cylinder 1 is not a “small amount” (Reply Br. 2).

We agree with the Examiner’s ultimate finding that claims 5, 7-11, and 13-16 are anticipated by Hayashi.

As an initial matter, we note that Appellants have not defined the claim terms “substantially” or “small amount” in their Specification. Rather, the only indication as to the meaning of these claim terms is provided by the function performed by the features these terms modify, namely, the sealing surface and the skirt of the device. From the very language of the claims, the sealing surface must be “substantially the same shape” and the skirt must deform “only a small amount” so that a seal is formed “between the sealing surface and the interior surface of the cavity.” Accordingly, we determine that the claim terms “substantially” and “small amount” require a seal be formed between the sealing surface and the interior surface of the cavity in

order to satisfy these claim terms.¹ We will use this interpretation in our analysis below.

Hayashi discloses a rubber plug 3 that functions in the same manner as Appellants' high pressure sealing assembly 40. Namely, Hayashi's rubber plug 3 has an outer cylinder (16 or 16a) which deforms upon insertion into sealing cylinder 1 (Hayashi, col. 4, ll. 30-40, 53-55; col. 5, ll. 3-13; Figure 1; Figure 2). Hayashi further discloses that outer cylinder 16 "... is kept pressed against the edge 1a of the opening being fully in close contact with the latter" (Hayashi, col. 4, ll. 53-55). Moreover, with regard to the Figure 2 embodiment, Hayashi discloses that the outer cylinder 16a "is so formed that its outer cylindrical surface is suitably pressed against the inner cylindrical surface of the seal cylinder 1" (Hayashi, col. 5, ll. 11-13). Both of these disclosures indicate that a seal is formed between the sealing surface of the outer cylinder 16 or 16a and the interior of the cavity.

From the foregoing, Hayashi discloses a sealing surface (i.e., the outer surface of outer cylinder 16 or 16a) and a "skirt" (i.e., outer cylinder 16 or 16a) that satisfy Appellants' claimed function of forming a seal with the interior of the cavity by undergoing a "small amount" of deformation. Therefore, Hayashi discloses Appellants' only argued distinctions of a sealing surface having "substantially the same shape as the interior of the cavity prior to insertion" and a skirt that deforms a "small amount."

¹ If Appellants do not agree with our claim interpretation, then the Examiner should consider making a 35 U.S.C. § 112, 2nd paragraph, rejection in any further prosecution that may occur as Appellants have not provided any guidance as to the meaning of these claim terms. *Seattle Box Co., Inc. v. Indus. Crating and Packing, Inc.*, 731 F.2d 818, 826, 221 USPQ 568, 573-74 (Fed. Cir. 1984).

With respect to the device claims, we add that these claims are directed solely to the device, not the combination of the device with a cavity. Therefore, properly viewing Appellants' device in isolation from the cavity, Hayashi's rubber plug 3 satisfies the claimed structural features of Appellants' device. In another words, Hayashi's rubber plug 3 meets Appellants' device claims by virtue of satisfying the functional claim language (i.e., forming a seal with the interior wall of the cavity) when the rubber plug 3 is inserted into an appropriate cavity. Appellants' device claims encompass a rubber plug capable of being inserted into any size or shape cavity.

Appellants' preambular claim recitation of "device for sealing a cavity" provides additional support for the proposition that the claim term "cavity" is not part of the claimed device. As the Examiner correctly stated, the claim recitation, "for sealing a cavity," is merely an intended use of the device which does not further limit an apparatus (i.e., device) claim (Answer 5). Based on his determination that the claim recitation "for sealing a cavity" is merely an intended use, the Examiner appropriately indicated that Appellants' device claims, as currently written, do not "positively claim the internal cavity" (Answer 5) such that a particular cavity size does not impose any structural limitation on the device as claimed.

Because Hayashi discloses a rubber plug 3 and method of using the rubber plug 3 that satisfy all the features of claims 5 and 9, Hayashi anticipates Appellants' claims.

Accordingly, we affirm the Examiner's rejection of claims 5, 7-11 and 13-16 under § 102(b) over Hayashi.

CONCLUSION

The Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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